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New claims

1. A method of acoustically monitoring wind power installations, comprising the steps:

recording a reference noise spectrum of a wind power installation and/or parts thereof at at least one given location of the installation,

storing said reference spectrum in a storage means,

recording the operating noise spectrum during operation at the given location or locations of the installation,

comparing the recorded operating noise spectrum to the stored reference spectrum,

detecting deviations between the operating noise spectrum and the reference spectrum,

communicating the detected deviations between the operating noise spectrum and the reference spectrum to a remote monitoring centre, and

communicating the noises which caused the deviations between the operating spectrum and the reference spectrum to the remote monitoring centre.

2. A method of acoustically monitoring wind power installations, comprising the steps:

storing a reference noise spectrum of a wind power installation and/or parts thereof in a storage means,

recording the operating noise spectrum during operation at the given location or locations of the installation,

comparing the recorded operating noise spectrum to the stored reference spectrum,

detecting deviations between the operating noise spectrum and the reference spectrum,

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communicating the detected deviations between the operating noise spectrum and the reference spectrum to a remote monitoring centre, and

communicating the noises which caused the deviations between the operating spectrum and the reference spectrum to the remote monitoring centre.

3. A method according to claim 1 or claim 2 wherein the operating noise spectrum is continuously or repetitively recorded during operation at the given location or locations of the installation.

4. A method according to claim 1, claim 2 or claim 3 wherein noise patterns are formed from the original noises and an acoustic data bank is built up from said noise patterns.

5. A method according to claim 1 or claim 2 wherein the wind power installation is shut down if the deviations between the operating spectrum and the reference spectrum exceed a predetermined threshold value.

6. A wind power installation in which the acoustic monitoring method according to claims 1 to 5 is applied, comprising

at least one sound pick-up at at least one given location of the installation for one-time recording of the reference noise spectrum and for continuously recording the operating noise spectrum of the wind power installation and/or parts thereof,

a storage means for storing the reference spectrum of the installation,

a data processing means for comparing the recorded operating noise spectrum to the stored reference spectrum and for detecting deviations between the operating noise spectrum and the reference spectrum, and

a communicating device for communicating the detected deviations between the operating noise spectrum and the reference spectrum to a remote monitoring centre and communicating the noises which caused the deviations between the operating spectrum and the reference spectrum to the remote monitoring centre.

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